

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF LED COUNTDOWN PEDESTRIAN SIGNAL HEADS, APS PUSHBUTTONS AND SIGNS AT THE INTERSECTION OF MD 99 (OLD FREDERICK ROAD) AND WETHERBURN ROAD/MAPLEWOOD DRIVE IN HOWARD COUNTY. MD 99 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION CURRENTLY OPERATES IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASING FOR EASTBOUND AND WESTBOUND MD 99, AN ALTERNATE PEDESTRIAN PHASE TO CROSS THE EAST LEG OF MD 99, AND A CONCURRENT PEDESTRIAN PHASE TO CROSS WETHERBURN RD.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED. AN APS CENTRAL CONTROL UNIT WILL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA.

CONTACT PERSONS FOR DISTRICT #7 ARE AS FOLLOWS:

MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: (301)624-8140

MS. ANDREA ABEND
UTILITY ENGINEER
PHONE: (301)624-8115

MR. RAYMOND JOHNSON
ASSISTANT DISTRICT ENGINEER-MAINTENANCE
PHONE: (301)624-8105

CONACT PERSONS FOR OOTS ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
DIVISION
PHONE: (410)787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF
TRAFFIC OPERATIONS
(410)787-7630

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
(410)787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
(410)787-7676

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
6. ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
7. LOCATION OF ACCESSIBLE PEDESTRIAN PUSHBUTTONS MUST MEET THE LOCATION REQUIREMENTS OF THE MUTCD, SECTION 4E-09 AND FIGURE 4E-2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNAL: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL THE CONFLICT HAS BEEN RESOLVED. IF NEEDED, A DESIGN WAIVER SHALL BE OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
8. INSTALL PVC SLEEVE FOR SIGNS IN SIDEWALK AREAS.
9. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR FROM 60"x60" LEVEL LANDING AREA. A LEVEL LANDING AREA IS AN AREA WITH A CROSS SLOPE OF LESS THAN 2%.

GENERAL NOTES CONTINUED

10. PUSHBUTTON IS TO BE LOCATED SO THAT A PEDESTRIAN IN A WHEELCHAIR LOCATED ON THE LEVEL LANDING AREA, DOES NOT HAVE TO REACH MORE THAN 18"
11. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
9570	SHEET ALUMINUM SIGNS - GROUND MOUNT	SF	90
	8 - S1-1 (36"x36") FYG		
	8 - M6-2 (21"x15") FYG		

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
2000	TEST PIT EXCAVATION	EA	4
5000	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	LF	42
5001	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH	LF	420
5006	12 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	400
8001	CONCRETE FOR SIGNAL FOUNDATION	CY	.8
8002	AUDIBLE / TACTILE PEDESTRIAN PUSHBUTTON	EA	4
8003	BREAKAWAY PEDESTAL POLE - ANY SIZE	EA	4
8004	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL	EA	4
*8005	REMOVE AND DISPOSE PER ASSIGNMENT	LS	1
8006	PEDESTRIAN EDUCATION SIGN 2 - R10-3(1) (9"x15" - OLD FREDERICK RD.)		
	2- R10-3(1) (9"x15" - WETHERBURN RD)	SF	3.75
8007	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	100
8008	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	LF	90
8009	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	1
8010	RELOCATE EXISTING GROUND MOUNTED SIGNS	SF	1.5
8011	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	EA	1
8012	CUT, CLEAN, GALVANIZE, AND CAP SIGNAL STRUCTURE	EA	1
8013	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	230
8014	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	335
8015	INSTALL GROUND MOUNTED SIGN	SF	90
8016	APS CENTRAL CONTROL UNIT	EA	1
8017	LOOP WIRE ENCASED IN 1/4 IN. FLEXIBLE TUBING	LF	822
8018	SAW CUT FOR SIGNAL (LOOP DETECTOR)	LF	234
8019	1 INCH DIAMETER SCHEDULE 40 RIGID STEEL CONDUIT	LF	5
8020	WOOD SIGN SUPPORT 4 INCH X 4 INCH	LF	77.5
8022	DISCONNECT, PULL-BACK AND RE-ROUTE CABLES	LF	140
8000	FURNISH AND INSTALL 2-CONDUCTOR ALUMINUM SHIELDED CABLE (NO. 14 A.W.G.)	LF	55

* REMOVE AND DISPOSE ITEM IS FOR ALL SIGNALS AND SIGNS WHICH ARE PART OF THIS TASK. MOT QUANTITY IS COVERED AS PART OF THE SIDEWALK PLANS.

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO SHA.
ALL MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
PHASE 1 + 5	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 1 + 5 CHANGE															
PHASE 1 + 6	G	G	G	R	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 1 + 6 CHANGE															
PHASE 2 + 5	R	R	R	G	G	G	R	R	R	R	DW	DW	DW	DW	
PHASE 2 + 5 CHANGE															
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	WALK	WALK	DW	DW	
PED. CLEARANCE	G	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	DW	DW	
PHASE 2 + 6 CHANGE															
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	
PHASE 4 + 8 CHANGE															
PED. PHASE 4 & 8 ALT.	R	R	R	R	R	R	G	G	G	G	DW	DW	WALK	WALK	
PED. CLEARANCE	R	R	R	R	R	R	G	G	G	G	DW	DW	FL/DW	FL/DW	
PED. PHASE 4 & 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	

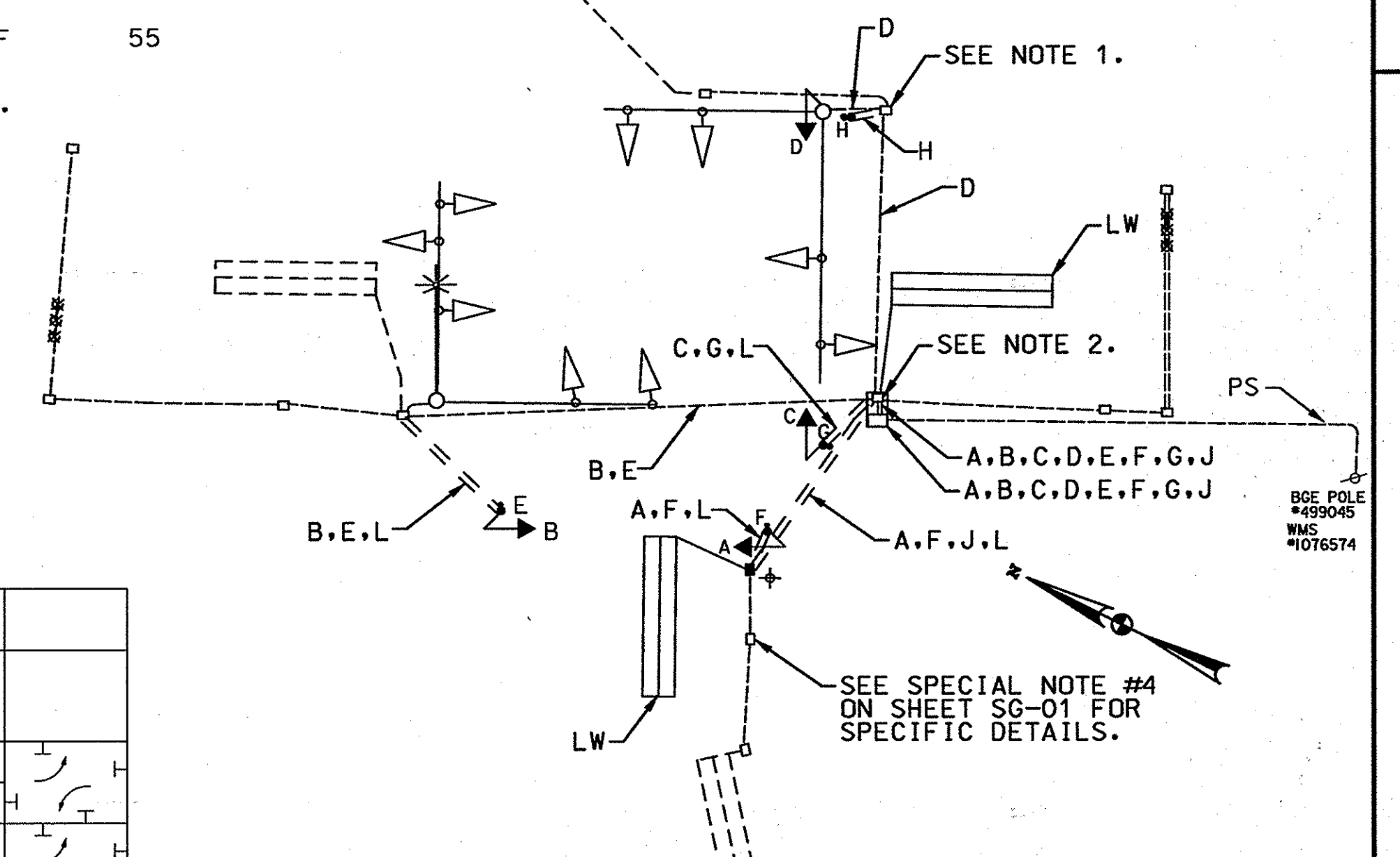
WIRING KEY

A B C D	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E F G	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H	EXISTING 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
J	2-CONDUCTOR ALUMINUM SHIELDED ELECTRICAL CABLE (NO. 14 A.W.G.)
K	EXISTING 2-CONDUCTOR ALUMINUM SHIELDED ELECTRICAL CABLE (NO. 14 A.W.G.)
L	BARE COPPER STRANDED GROUND WIRE (NO. 6 A.W.G.)
⊕	PROPOSED 3/4 IN. x 10 FT. GROUND ROD
LW	LOOP WIRE
PS	EXISTING ELECTRICAL SERVICE

WIRING DIAGRAM

NOTE: 1. PULL BACK EXISTING 2-CONDUCTOR (NO. 14 A.W.G.) TO THIS HANDHOLE AND RE-ROUTE TO PROPOSED APS PUSHBUTTON.

2. SPLICE NEW LOOP WIRE TO EXISTING 2-CONDUCTOR ALUMINUM SHIELDED CABLE IN THIS HANDHOLE.



SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
**MD 99 (OLD FREDERICK ROAD) AND
WETHERBURN ROAD /MAPLEWOOD DRIVE**

GENERAL INFORMATION

SCALE NONE DATE OCTOBER 2007 CONTRACT NO. AX3755133

DESIGNED BY MLH COUNTY HOWARD
DRAWN BY MLH LOGMILE 13009905.02
CHECKED BY DAE TMS NO. I-767
FAP NO. TOD NO.

**RUMMEL, KLEPPER
& KAHL, LLP**
CONSULTING ENGINEERS
81 MOSHER STREET
BALTIMORE, MARYLAND 21217

TELE: (410) 728-2900 FAX: (410) 383-3270

TS NO. 4283A-GI DRAWING SG-02 OF 02 SHEET NO. 22 OF 22

PLOTTED: 04/11/2008
FILE: M:\projects\2007\07056_shahd\Task01_ADA\CADD\Traffic\PLANS\MD99\MD99\WETHERBURN\SGI.DGN